

What is claimed is:

1. A method for controlling engine start-up, comprising:
providing fuel using a fuel tank and in which at least a majority of said fuel is fuel
vapor; and

5 supplying at least some of said fuel vapor obtained during said providing to the
engine, wherein said fuel vapor from said supplying is the only fuel vapor used during
said engine start-up.

2. The method of Claim 1, wherein said fuel tank houses liquid fuel.

3. The method of Claim 1, wherein said providing includes using a device to
10 create a negative pressure.

4. The method of Claim 1, wherein said providing includes providing said
fuel vapor at ambient temperature.

5. The method of Claim 1, wherein said fuel tank contains the only source of
fuel for the engine start-up and for engine operation other than start-up.

15 6. The method of Claim 1, wherein said providing includes reducing an
ambient pressure of said fuel independently of the engine.

7. The method of Claim 1, wherein said providing is conducted before
ignition of the engine as part of its start-up.

8. The method of Claim 1, wherein substantially all of said fuel provided is
20 fuel vapor.

9. The method of Claim 3, wherein said device has a discharge side and at
least portions of said fuel vapor re-condense adjacent said discharge side.

10. The method of Claim 1, further comprising:
after said engine has warmed up, supplying liquid fuel to said engine.

25 11. An assembly that when activated provides fuel vapor for use in engine
start-up, comprising:

a fuel tank that contains fuel;

a vapor fuel line communicating with said fuel tank; and

a device that creates a negative pressure for use in controlling movement of fuel
30 vapor to the engine, wherein said device is different than the engine.

12. The assembly of Claim 11 wherein said device includes a vacuum pump
disposed along said vapor fuel line between said fuel tank and the engine.

13. The assembly of Claim 11 wherein said fuel tank contains liquid fuel that is used by the engine after start-up.

14. The assembly of Claim 11 wherein said fuel vapor is provided to the engine independently of any vacuum created by the engine.

5 15. The assembly of Claim 11 wherein said device is activated before the engine is ignited.

16. The assembly of Claim 11 wherein said fuel vapor is at ambient temperature.

10 17. The assembly of Claim 11 wherein said fuel tank is the only source of said fuel vapor used by the engine during start-up.

18. A method for starting an engine, comprising:
drawing vapor from a liquid fuel tank; and
supplying said vapor drawn from said liquid fuel tank to at least a first combustion chamber of said engine, wherein said engine is started using said vapor.

15 19. The method of Claim 18, further comprising:
monitoring a temperature of said engine; and
in response to said temperature exceeding a predetermined level, providing liquid fuel to said at least a first combustion chamber.

20 20. The method of Claim 19, wherein said monitoring a temperature of said engine comprises monitoring a temperature of at least one of engine coolant, engine oil, engine exhaust, and an engine component.

21. The method of Claim 19, further comprising in response to said temperature exceeding said predetermined level, ceasing to supply said vapor drawn from said liquid fuel tank.

25 22. The method of Claim 18, further comprising:
after starting said engine, initiating a timer; and
in response to said timer indicating that a predetermined period of time has elapsed, providing liquid fuel to said at least a first combustion chamber.

30 23. The method of Claim 18, further comprising:
after starting said engine, providing liquid fuel to said engine, wherein said vapor drawn from said liquid fuel to at least a first combustion chamber is abruptly stopped.

24. The method of Claim 18, further comprising:

after starting said engine, providing liquid fuel to said engine, wherein supplying
said vapor drawn from said liquid fuel to said at least a first combustion chamber is
5 gradually stopped.